ISS Utilization Management Concept Development Team

Federal Government Corporation Option

Briefing to NASA Center Directors

September 12, 2002

Government Corporation Option
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Government Corporation Option
Description

In its end-state, the Government Corporation for ISS Utilization Management (GCIUM) is envisioned as:

- A non-profit, federal government owned and controlled corporation established by Congressional legislation to manage ISS utilization endeavors
- An organization empowered to provide public and private services through it's Charter and the Government Corporation Control Act
- A **Customer-centric organization** whose mission is to represent and advocate for the science, technology and commercial user community
- An organization which facilitates customer involvement in utilization management and optimizes processes and outcome potential for the customers

Government Corporation Option
Rationale

- It is appropriate to use a Government Corporation when:
  - There is an absence of a commercially competitive market for the goods or services
  - There is a need to continue services to an unprofitable market
  - It serves public and private purposes
  - There is likely a continuing demand for its goods or services
  - The operation is to be primarily business-like or can benefit from application of business-like operating principles

- Advantages for using a Government Corporation are:
  - Authority and power of the federal government
  - A high degree of flexibility in operations, management, legal, financial and procurement aspects
  - Ability to perform inherently or appropriately governmental functions
  - Increased relief from binding regulations

Government Corporation Option
End-State Functional Allocation

0) Define, Develop and Implement Policy and Strategic Plans	S
1) Management of Research Utilization	
a) Establish Research Plans	L
b) Manage Research Programs	L
c) Manage Integrated Research Utilization	L
2) Preparing and Allocating Budgets	
a) Budget Formulation, Justification	L
b) Budget Execution	L
3) Selecting and Prioritizing Research	
a) Managing selection process	L
b) Selection	L
c) Prioritizing selections	L
4) Establishing Payload/Experiment Requirements and Feasibility	
a) Research Requirements	L
b) Engineering Concept Development & Hardware Assessments	L
5) Developing Cost, Schedule, and Risk Assessments	
a) Perform Cost, Schedule, Risk Management Assessment	L
b) Authority to Proceed	L
6) Developing and Qualifying Flight Research Systems	
a) DDT&E	L
b) Subrack Integration	L
c) Operations	L
7) Maintaining and Sustaining Flight Research Systems	
a) DDT&E	L
b) Operations	L
8. Developing Ground Systems	L
9) Maintaining and Sustaining Ground Systems	
a) Identify changes/upgrades to Research Flight Systems	L
b) Maintain & Sustain Research Ground Systems	L
10. Constructing Ground Facilities	
11. Maintaining Ground Facilities	
12) Certifying Safety of Research Flight and Ground Systems	S
13) Managing Missions and Allocating Services	
a) Advocacy, Manifesting and Resource Allocations	L
b) ISS Research Mission Management	L
14) Integrating User Mission – Analytical	
a) Payload Engineering Integration	L
b) Payload Software Integration and Flight Production	L
15. Integrating User Missions - Physical	L
16) Integrating User Missions - Operational	
a) Payload Training	L
b) Operations Integration	L
17) Conducting Research & Analysis and Disseminating Results	-
18. Educating and Reaching Out to the Public (including industry)	
a) Management and Control	L
b) Disseminate, Communicate & Report results to ISS customers	L
19. Recommending ISS Pre-Planned Product Improvements	L
20. Managing Archival of Research Samples, Data, and Results	L

Inherently/appropriately governmental or PI

Science/Technology/Commercial Leadership

Maintaining and Sustaining Flight Systems

Developing Flight Research Systems

Mission Management and Operations

Analytical and Physical Integration

Independent of Functional Allocation

Government Corporation Option
Key Aspects

- Enabled by Congress and Chartered as a not-for-profit entity
- Can perform inherently governmental and appropriately governmental functions, as desired
- Can interface with and negotiate directly with the International Partners
- Is exempt from selected civil service rules and regulations
- Governance is provided by a Board of Directors comprised of key members appointed by the President and confirmed by the Senate.
  - Chartered members include NASA executives and other executives from positions within NSF, DOC and other relevant government agencies.
  - Other members are recruited from leadership positions within the academic, industry and financial communities.
- An Executive Management Staff, empowered and charged by the Board of Directors, manages daily operations
  - The Executive Management Staff is relatively small, of high caliber and expertise, and a mix of permanent and transitional Government, Academic, and Industry personnel

Government Corporation Option
Key Aspects

- Provides for varied forms of funding (with exemptions from Gramm-Rudman-Hollings, and similar Legislation), including:
  - Direct Congressional appropriations
  - Inter-Agency transfers of funds
  - Revenue production
  - Government guaranteed loans
  - Private investment
- Can buy and sell assets and services without complying with Federal procurement and disposal regulations
- Uses the Intergovernmental Personnel Act to utilize NASA (and other Agencies, as appropriate) Civil Service personnel
  - Temporary nature of the IPA helps maintain Agency technical and managerial expertise and competencies while providing “bridging” to new Agency initiatives
- Uses Direct Service Agreements with NASA to provide technical expertise in work areas with matrixed discipline-oriented expertise
  - Maintains Agency technical competencies in specific work areas
- Can engage in sponsorships and self-promotion

Government Corporation Option

Transition Strategy - Authority/Accountability/Performance

Phase 1 - Consolidation	Phase 2 - Transition	Phase 3 - Maturation
NASA Responsibility		**GCIUM Responsibility**

- **NASA initiates legislative action to establish the Government Corporation for ISS Utilization Management (GCIUM) as a separate entity from NASA**
- **NASA creates the ISS Utilization Management Consolidation Office (IUMCO)**
  - **Consolidates and manages implementation of ISS Utilization functions**
  - **Creates GCIUM Charter and Board of Directors Governance**
  - **Develops strategy for and manages transition of functions to the GCIUM**
  - **Assembles senior executive operating staff in advance of GCIUM creation**
- **IUMCO continues ISS Utilization management consolidation and continuous improvement activities currently underway**

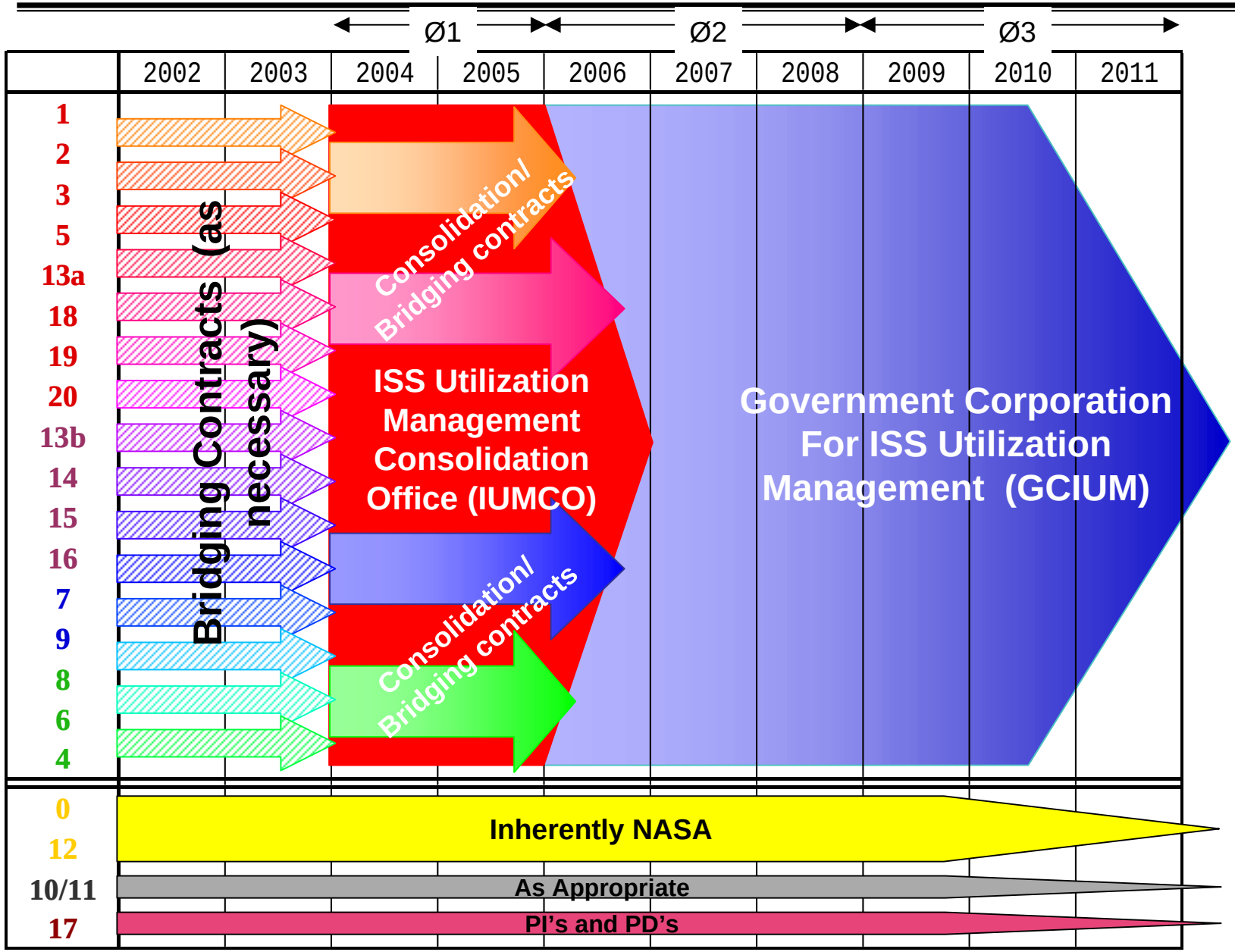
- **Congress establishes the GCIUM**
- **NASA and the GCIUM staff core organizational teams**
- **GCIUM incrementally implements functions based on established transition criteria**
  - **Establishes single customer interface**
  - **Establishes non-NASA interfaces and agreements**
  - **Enables competitive contracting approaches to capture "best practices" in delivering scientific, technological and commercial research processes**
  - **Begins national & international advocacy/outreach**
  - **Establishes investment capital fund**
- **NASA maintains desired competencies through collaboration with the GCIUM**

- **GCIUM maximizes commercial practices and activities**
  - **Creates new business organizations to maximize opportunities**
  - **Improves business lines**
  - **Provides private investment opportunities**
  - **Acquires and divests assets**
  - **Matures "best buy" support agreements**
  - **Promotes and enables utilization of emerging technologies and applications**
  - **Establishes capital investment portfolio**
- **NASA completes refocus of resources to other Agency Programs and Projects**

NASA continues ISS vehicle and carrier responsibilities

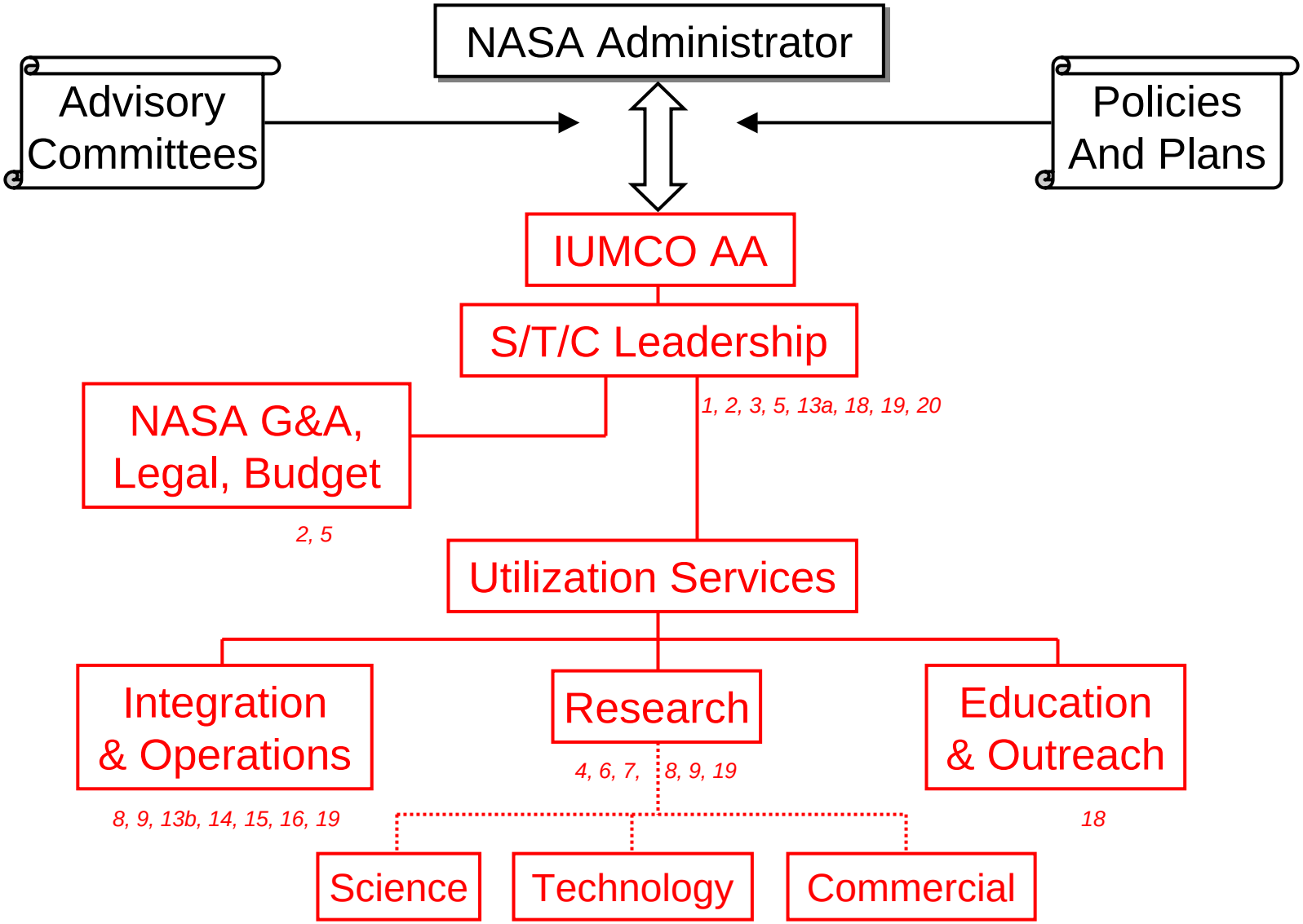
Government Corporation Option

Transition Strategy - Phasing/Contracts/Functions



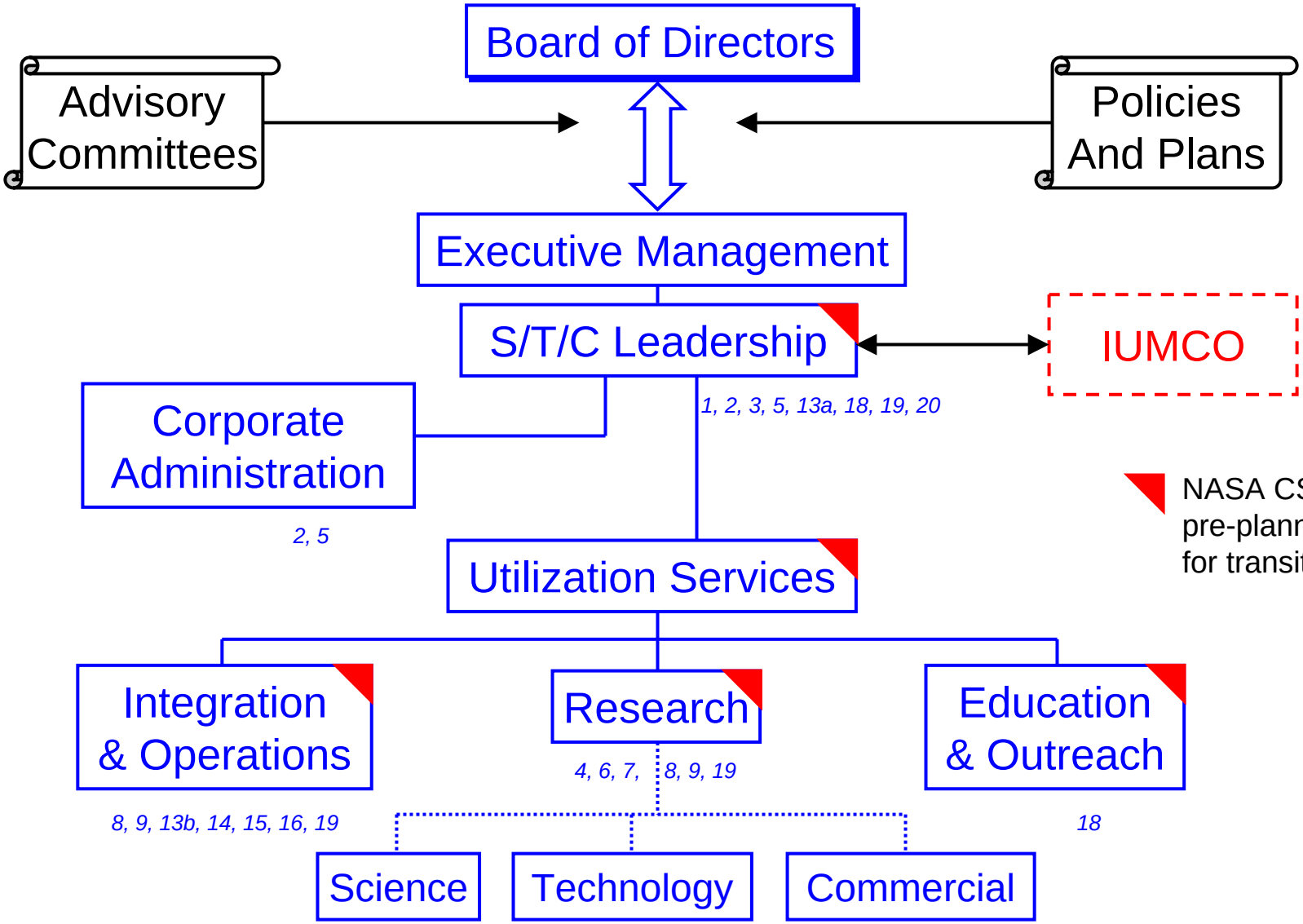
Government Corporation Option

IUMCO Organization Structure - FY2004-05



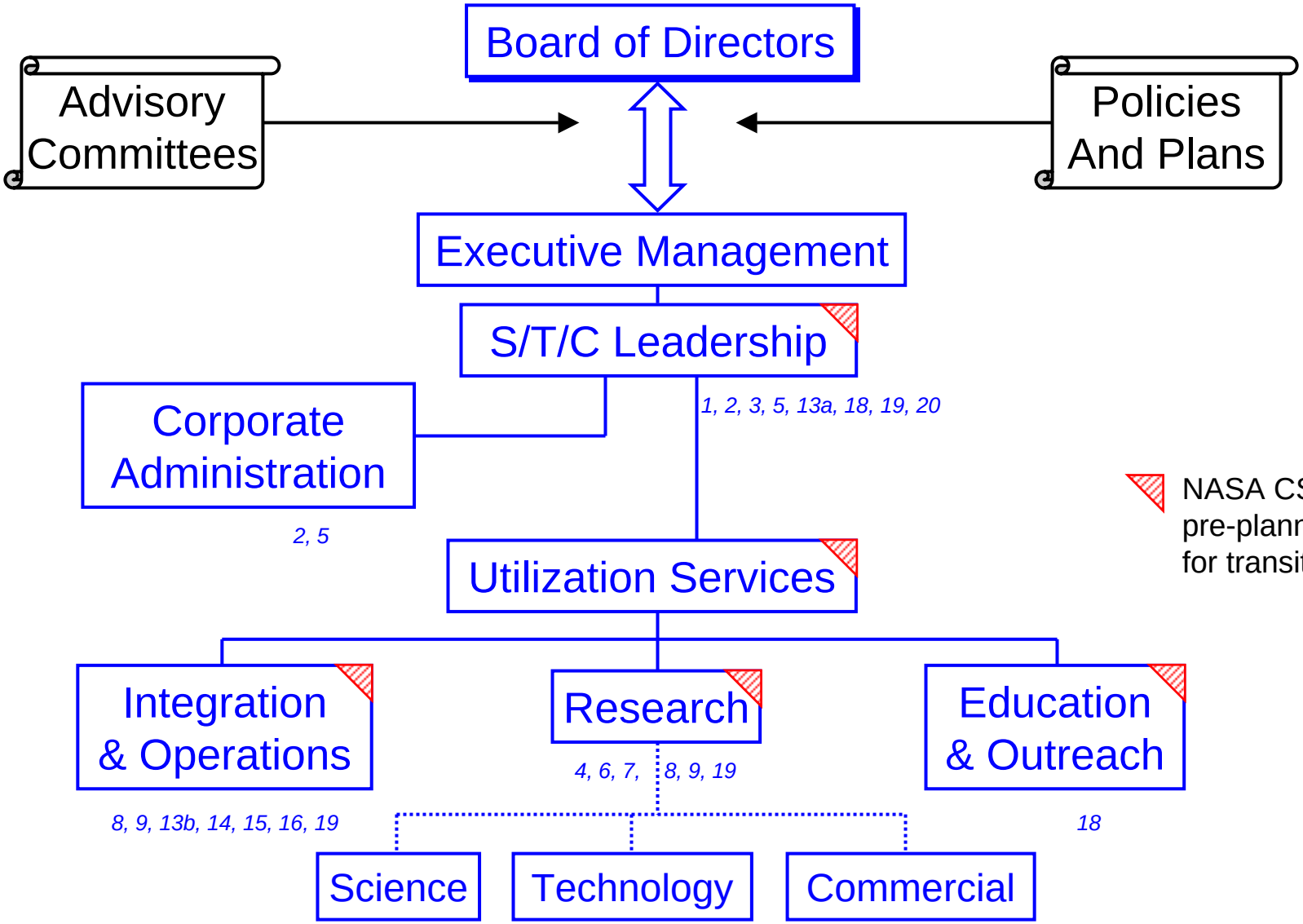
Government Corporation Option

GCIUM Organization Structure - FY2006

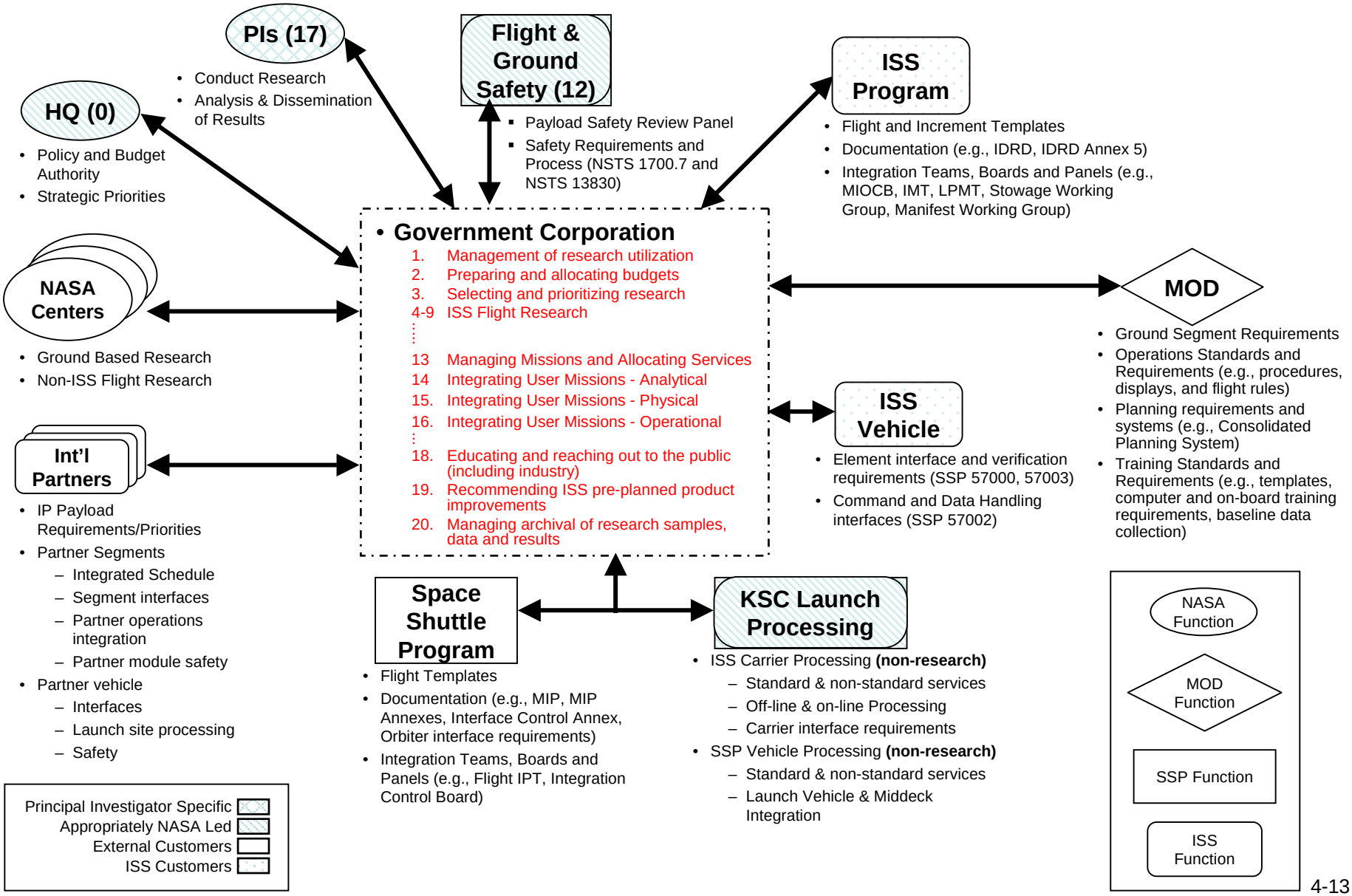


Government Corporation Option

GCIUM Organization Structure - FY2007+



Government Corporation Option
Interfaces



Government Corporation Option
Goals Assessment

The GCIUM:

- Provides focused leadership and accountability for achieving excellence in Science, Technology and Commercial utilization of the ISS as its highest priority
- Provides centralized representation and advocacy for the user community in order to optimize processes and outcome potential for the customers
- Serves as the “one-stop-shop” for ISS users by facilitating customer involvement in research management and serving as the knowledgeable expert of ISS interfaces for the users
- Provides integrated outreach and encourages and promotes academic, government, and industry utilization of the ISS
- Provides organizational and operational flexibility to align budget, staffing, and processes to respond to user community requirements
- Promotes and seeks alternate revenue and investment sources to build and broaden the ISS user community

Government Corporation Option
Workforce Assessment

- Prior to establishment of the GCIUM (FY05), ~75 additional key personnel are recruited into the IUMCO through the use of IPAs and/or term appointments to aid in transition planning
- The GCIUM is established in FY06;
  - ~225 NASA civil servants (45% of currently projected CS workforce) are IPA'd to the GCIUM.
  - GCIUM enters into direct service agreements with NASA for the performance of specific functions; involving ~200 NASA civil servants (40% of currently projected workforce)
  - Additional required employees are direct hires by the GCIUM.
- Each year, a designated number (~15%; but can be increased or decreased dependent on GCIUM performance and the success of transition) of NASA IPAs return to NASA while the GCIUM backfills with direct hires.
- Long-term workforce levels of the GCIUM are essentially equivalent to the currently projected NASA/contractor estimates for equivalent functions.

Government Corporation Option
Competencies Assessment

- Ability to IPA NASA civil service employees to the GCIUM enables NASA to retain its competency base in key areas to meet future Program and Project needs.
- IPA assignments will strengthen and expand civil service workforce competencies and skill base as workforce IPA'd to the GCIUM will work in a collaborative environment with others considered to be the "best and brightest" from academia, industry and other government agencies. The experience of working in this collaborative, enriching environment can also be viewed as a training and/or enhancement opportunity for employees.
- Ability to IPA NASA civil service employees to the GCIUM will allow for a smooth and safe transition of functions and expertise during ongoing operations.
- New Programs and Projects must be established and aligned with NASA's human capital strategy to effectively utilize the returning workforce.

Government Corporation Option
Budget Assessment

- Although the GCIUM is not established until FY06, ~$10M is required in FY05 to fund the additional key personnel added to the IUMCO to perform transition planning
- When established in FY06, the GCIUM captures the Research Capability budget associated with functions managed by the corporation
- By FY07, the GCIUM budget is approximately $326M. This is comprised of:
  - $242M R&D
  - $26M for direct hires (new GCIUM employees to offset returning NASA IPAs)
  - $58M for corporation G&A. For estimating reasons, this is assumed to be 20% of the budget; the equivalent NASA G&A has not been included in this evaluation.

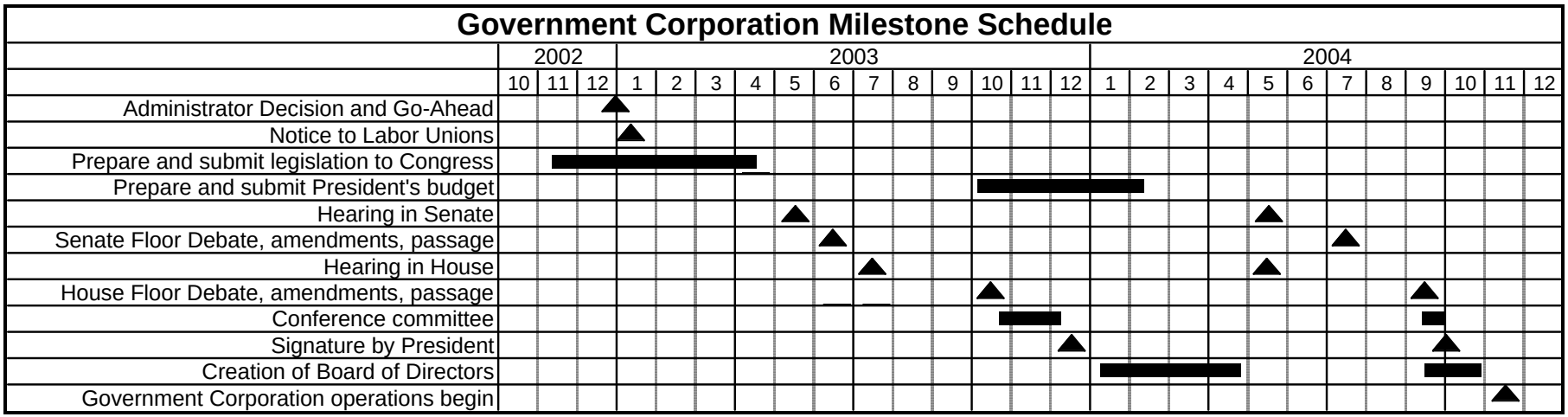
Government Corporation Option
Distinguishing Strengths

- Assimilation of leadership with a common objective and focus on promoting and facilitating ISS Utilization
- The power and authority of the federal government
- High degree of organizational and operational flexibility
  - Responsive to customer demand/priorities, market forces, etc.
  - Effective and efficient use, and transition of, agreements, contracts, etc.
- High level of visibility and influence to Congress and stakeholders
- Capability for self-promotion and revenue production
- Smooth and safe transition of functions and personnel without disrupting ongoing operations
- Unique staffing approach retains NASA competencies through the use of Direct Service Agreements and IPAs; accommodates phased return of IPA'd personnel as future NASA Programs are established
- NASA gains strategic business partner in space development

Government Corporation Option
Distinguishing Weaknesses

- Establishment of GCIUM requires Legislative action
- Final content of, and development schedule for, GCIUM Charter is not controlled by NASA
- GCIUM is not under NASA control
- NASA funding reduced for those functions moved to the GCIUM
- NASA personnel IPA'd to GCIUM count against NASA headcount; potential for competency losses if employees choose to permanently transfer to the GCIUM
- Removal of functions from NASA may reduce Agency's ability to leverage expertise across Programs/Projects
- Potential for conflicts between public purpose and pursuit of private funding

Government Corporation Option
Legislative Process



Government Corporation Option
Summary

The Federal Government Corporation Option offers:

- The power and authority of the Federal Government with the operating flexibility of a private business.
- Extremely high visibility (e.g. Congress) and the capability for self-promotion and revenue production.
- The ability to smoothly and safely transition functions and personnel without disrupting ongoing operations.
- A straightforward method for competency and skill retention across NASA and the Government Corporation.
- The flexibility to transition contracts efficiently for best buy and best practice maximization.

Government Corporation Option

Backup Material

Government Corporation Option

U.S. Enrichment Corporation, a privatization model:

The U.S. Enrichment Corporation is a private firm established in July of 1998, a global energy company holding 75% of the North American uranium enrichment market and 40% of the World market. This company started out as an separate organization within the Department of Energy (DoE) in 1991.

1991
Establishment

Uranium Enrichment Organization

1992
Energy Policy Act creates "U.S. Enrichment Corp."

U.S. Enrichment Corporation

1996
U.S. Privatization Act permits privatization of U.S. Enrichment Corp.

U.S. Enrichment Corporation

1998
IPO of U.S. Enrichment Corp. privatizes the company

U.S. Enrichment Corporation

Government Corporation Option
Transition Overview

The Government Corporation for ISS Utilization Management (GCIUM) starts out as an Office within NASA for consolidating ISS utilization management functions. Congressional Legislation creates the Corporation and functions are handed over incrementally.

FY2004
Establishment

ISS Utilization Mgmt Consolidation Office

FY2006
Congressional Legislation creates GCIUM

Government **C**orporation for **I**SS **U**tilization **M**anagement

FY2006-2008
Incremental transition of functions to GCIUM

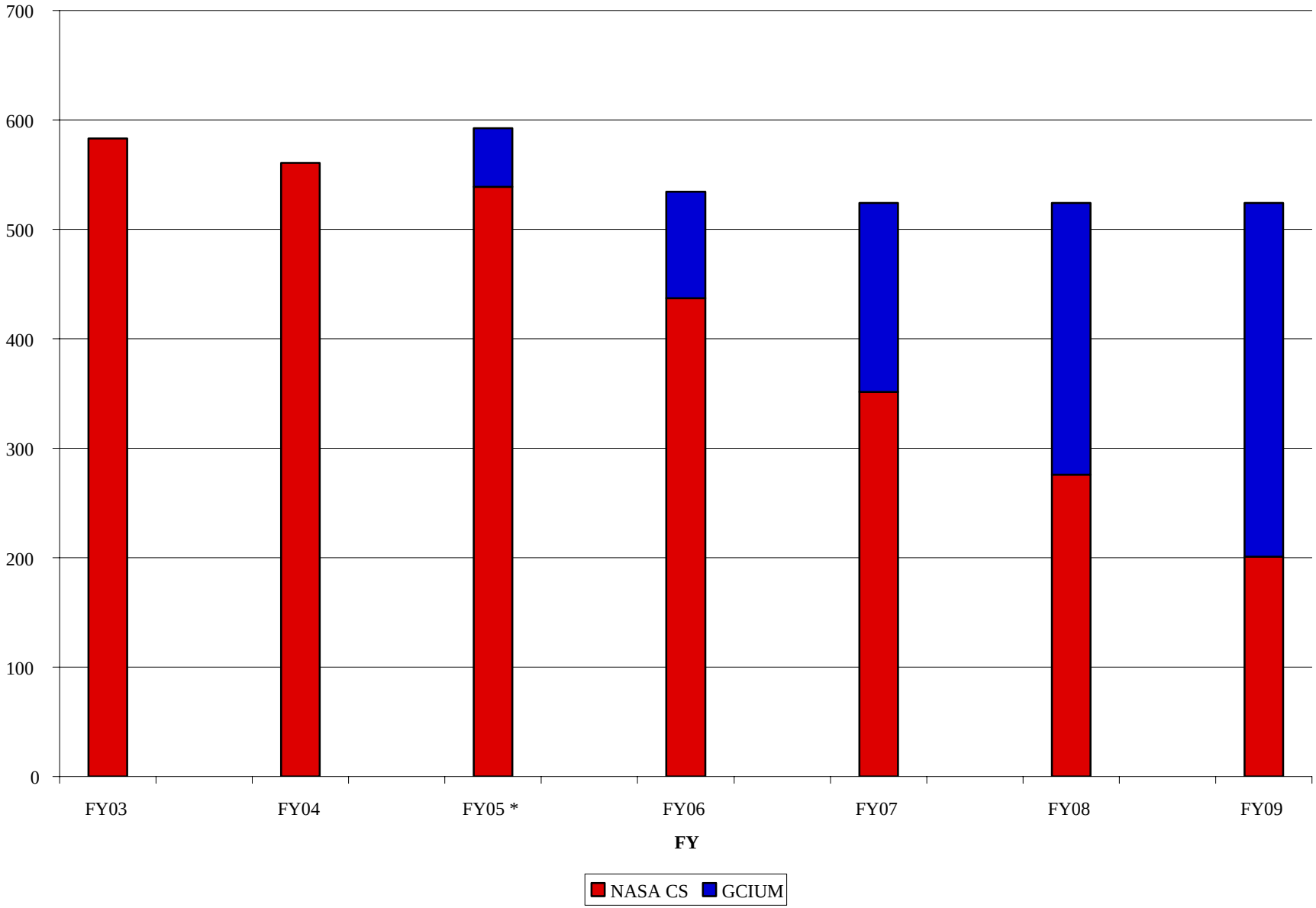
FY2012+ (potential)
Congressional Legislation permits privatization of GCIM

Government **C**orporation for **I**SS **U**tilization **M**anagement

FY2015+ (potential)
IPO of GCIM privatizes the company

Government **C**orporation for **I**SS **U**tilization **M**anagement

Government Corporation Option
Civil Service Workforce Outcomes



* GCIUM number represents key employees IPA'd to NASA working under the IUMCO

Goals of an NGO to Resolve Recurring Inputs from the User Community

- Ability to advocate and advance user needs
- Establishment of S/T/C focused leadership
  - Research outcome and outreach focused
  - Research-knowledgeable
  - Community recognized and respected user voice
  - Ability to synergize and leverage academic and industry research requirements
- Elimination of existing NASA organizational barriers that inhibit utilization
- Simplification of interfaces and processes
  - Processes and templates customized to S/T/C user needs
  - Focus on “best business practices” that reduce templates and documentation requirements and streamline processes
  - Simple and clear user interfaces
- Ability to generate alternative revenue sources
- Minimization of Agency impacts (workforce, competencies)

Government Corporation Option
Goals Outcomes

Ability to advocate and advance user needs

- Single organization able to serve as a strong voice to advocate for user needs
  - Direct linkage to academia, industry, NASA and Congress
  - Ability to lobby for additional funding, on-orbit platform resources and transportation availability
- Led by world-class academic, industrial and engineering researchers who understand, and have as a first priority the advancement of, user requirements
- Understands NASA resource limitations via S/T/C leadership serving in the IUMCO prior to GCIUM approval and civil service workforce assigned to the GCIUM

Government Corporation Option
Goals Outcomes, cont'd

Establishment of S/T/C focused leadership

- Led by academic and industrial researchers:
  - Who understand, and have as a first priority the advancement of, research requirements
  - Are respected peers of the user community
  - Have the knowledgebase to recognize and leverage commonality
  - Know how to communicate research goals and outcomes to the peer community and the general public
- Mix of S/T/C leadership allows for a collaborative environment:
  - Can balance diverse research needs
  - Can advance emerging areas of interest

Government Corporation Option
Goals Outcomes, cont'd

Elimination of existing organizational barriers that inhibit utilization

- Organization which exists outside of NASA eliminates existing Agency internal barriers:
  - Conflicts of interest (e.g. vehicle needs verses researcher needs)
  - Multiple points of contact
  - Overlapping and poorly defined lines of authority and responsibilities
  - Layers of management
  - Lack of communication
- Organization whose sole purpose is the advancement of research can focus on organizational efficiencies that will advance goals and minimize barriers

Government Corporation Option
Goals Outcomes, cont'd

Simplification of interfaces and processes

- Processes and templates customized to S/T/C user needs
- Corporate nature focuses on "best business practices" that reduce templates and documentation requirements and streamline processes
- Single organization allows simple and clear user interfaces
- Organizational focus on research advancement should establish and implement processes and templates that are streamlined and efficient

Ability to generate alternative revenue sources

- Provides for varied forms of funding including:
  - Direct Congressional appropriations
  - Inter-Agency transfers of funds
  - Revenue production
  - Government guaranteed loans
  - Private investment

Government Corporation Option
Goals Outcomes, cont'd

Minimization of Agency impacts

- Use of Interagency Personnel Act to utilize NASA (and other Agencies, as appropriate) Civil Service personnel to allow for retention of critical skills:
  - Requires no special Congressional action
  - Temporary nature of the IPA maintains Agency technical and managerial expertise and competencies while providing "bridging" to new Agency initiatives
  - Eliminates potential loss of C.S. benefits and position
- Use of direct Service Agreements with NASA to provide technical expertise in work areas with matrixed discipline-oriented expertise
  - Maintains Agency technical competencies in specific work areas